Golden-Windermere Limited

HON. WM. PUGSLEY, K.C., M.P.
President

W. D. McKAY
Managing Director and Sec'y-Treas.

The project to reclaim 43,000 acres of the bottom lands along the upper Columbia River in British Columbia,—extending for the 75 miles between Golden and Windermere.

1.—By a natural, permanent inexpensive scheme of draining and dyking.

2.—By reclaiming seperate Units of from 2600 to 6000 acres.

3.—By a survey and plans, made by competent engineers at a cost of $60,000.

4.—To reclaim a Unit, costs from 65 to 300 thousand dollars.

5.—Machinery to "finish" the land in the first Unit will cost 30 thousand dollars.

NOVEL FEATURES.

1. No promotion stock set aside for any phase of the Golden-Windermere project.

2. All purchases of stock place the holder on "the ground floor."

3. A LAND proposition—safe and marvellously big!

4. Unlimited markets close at hand.

5. Splendid transportation facilities.

6. High profits on land sales.

7. Immediate returns as each Unit is prepared.

8. Wonderful possibilities in the development of subsidiary companies.

9. The Columbia Valley appeals to the miner, the farmer, the rancher, the sportsman, the tourist, and the health-seeker; in fact, to all classes.

Careful Exploration of by efficient Engineers

In working out this great project for the reclamation of 43,000 acres of the rich bottom lands of the Upper Columbia River, it became necessary at the very outset to convince the Dominion Government that the enterprise could be successfully carried out. The most skilful and most experienced engineers were engaged. Their investigations extended over **a period of four years.** The Hon. F. W. Aylmer, C.E., B.C.L.S., District Engineer of the Public Works, British Columbia, for the Dominion Government, was the first to go over the holdings of the Company carefully. Thos. H. Dunn, Esq., C.E., of the Water Powers Branch, presented a valuable report in June, 1913. Then Messrs. Canavan and Mitchell, of Victoria ,B.C., the well-known Consulting Engineers, likewise made a preliminary examination of the scheme. Mr. Aylmer made a second series of investigations and furnished a most encouraging report in June, 1914. From the very beginning the whole work of survey has been under the close and careful inspection of J. B. Challis, Esq., Superintendent, Water Power Branch, Dept. of the Interior, Ottawa, and his able assistant, Mr. Thos. H. Dunn, C.E.

Approved by Provincial and Dominion Governments

Finally, when the Dominion Government and the Government of British Columbia were thoroughly satisfied that the project was possible, arrangements were at once made for **a complete and detailed survey** of all the properties of the Company. Every conceivable feature of the whole scheme of reclamation was examined by a firm of Engineers of wide knowledge and extensive experience in such projects. Up to the present nearly **$60,000** has been expended in surveys and in engineering plans.

Golden-Windermere, Limited, was fortunate in securing the services again of Messrs. Canavan and Mitchell of Victoria, B.C. Their work was carried on under the direct supervision of the Engineers of the Reclamation Division of the Department of the Interior, under the Government of Canada; and with the full knowledge and approval of the Department of Lands of the Government of British Columbia.

With a staff varying from twenty to thirty men, Messrs. Canavan and Mitchell worked over the whole area covered by the plans of the Company. They have **compiled a vast mass of data;** they have worked out the whole scheme of reclamation with maps, plans, designs, and estimates covering every possible phase and feature.

That all Departments concerned, whether of the Provincial or of the Dominion are thoroughly satisfied; and all necessary arrangements have been completed, is the strongest proof possible that plans for this great project are workable, and that **operations will begin at once.**

The Survey Exhausted

Of this complete and detailed Report, covering 150 pages, we present herewith a carefully compiled and comprehensive summary.

The field work was of two types:

(1) Topographic, hydrographic, and soil surveys of the bottom lands proper, for the purpose of determining the best type and location of the proposed works thereon, and the reclaimable acreage.

(2) Topographic and hydrographic surveys of various small tributaries of the Columbia, some of which it is intended to use as sources of power for pumping.

The examination of the bottom lands covered the entire stretch from the town of Golden to Lake Windermere—a distance of 74½ miles. EVERY PHASE OF THE WORK HAS BEEN CONSIDERED.

To ascertain the class of lands available, test pits were sunk at different points. The material encountered was practically identical throughout the valley. Twelve creeks were carefully explored, and abundant water found to furnish HYDRAULIC POWER FOR PUMPING APPARATUS. The estimates have been carefully prepared, and, as the work proceeds, will be found more than adequate. The plans are complete, and provide for the immediate practical working out of the whole scheme of reclamation.

The Flats of the Columbia

Nestling close to the foot of the loftiest peaks of the mighty Selkirks on the west, with the lofty Brisco Range of the Rockies on the east, THESE RICH ALLUVIAL LANDS OF THIS VAST, WELL-SHELTERED VALLEY have for centuries awaited the hand and skill of man to turn them to his use. The uplands and benches of the slopes have long been OCCUPIED BY RANCHERS AND FARMERS. Agricultural land close to the populated areas is, however, not abundant now in British Columbia. Here, easily accessible both to the markets of the prairies and to the large centres of British Columbia and Alberta, are **the future homes for thousands.**

Transportation

The Kootenay Central Railway was completed last year, and thus links, by a level roadbed, the main transcontinental line of the C.P.R. with the Crow's Nest Pass Division—its two main lines which cross the Rocky Mountains. This line, in its first seventy-five miles southward, forms THE EASTERN BOUNDARY FOR THE LANDS OF THE COMPANY. The grade is low—not 30 feet of a rise between Golden and Windermere. Stations have been opened and town-sites selected. Many ready-made twenty-acre farms have already been prepared and completed by two large irrigation companies. These are on the benches; with irrigation ditches and buildings, they are now in the market at $600 an acre, including improvements.

There are excellent wagon roads up the valley from Golden southward to Fort Steele and Cranbrook, with a branch road leading to Wilmer. Already the Provincial Government **HAS EXPENDED $400,000** on a motor road, now under construction, from Banff to Windermere, part of the **GREAT NATIONAL HIGHWAY**, which will thus pass in front of **ALL** the lands of the Company.

Golden, with its magnificent lumber mills lighted and run by electricity has long been a commercial strategic point for supplying the prairie market with lumber. Now its railway and transportation facilities have been greatly increased. Why should it not become, in the immediate future, likewise a **DISTRIBUTING CENTRE FOR THE ROOTS, FRUITS AND HAY** that this valley will produce from its virgin soil? or at least for such of these products as do not find their outlet southward by way of this new and important branch of the C.P.R. line?

But, for the next ten or fifteen years, the valley itself, with its manifold **GROWING ACTIVITIES IN FARMING, LUMBERING, MINING AND RANCHING**, and with its constant influx of additional population, will afford **A HOME MARKET** for everything that can be produced.

Medicinal Springs. A Rival of the Banff Springs

A unique feature for which the valley is already well known is the Sinclair Hot Springs, three miles from the river and 61 from Golden. From the foot of a high, ochre-stained cliff there is **A CONTINUOUS FLOW OF HOT MINERALIZED WATER.** As far back as there is any record, the Springs have had a reputation for the benefits derived from its use for bathing and drinking. In 1913, a London analyst reported that the water contained **a larger amount of radium than any on record,** materially exceeding even the famous waters of Bath, England.

An English Company has taken over the property, and, it is understood, will construct a modern sanitarium and bottling works.

Twenty-six miles south of Sinclair and eighteen south of Athalmer are the Fairmount Hot Springs, not so great in extent, but **FULLY AS WELL KNOWN AND AS EFFECTIVE** as the Sinclair Hot Springs.

Scenery and Sport

The scenery of the Windermere district is almost unrivalled, and has often been compared to the **MOST STRIKING FEATURES OF THE ALPS AND THE HIMALAYAS.** On the one side, the foothills and benches rising for more than two miles into **the snow-capped summits of the Selkirks;** on the other, **THE PRECIPITOUS PEAKS OF THE ROCKIES,** with many a mountain stream dashing its foaming way from rock to rock, into the slow and tranquil meanderings of the Columbia.

The Sportsmen will find game of all kinds: grizzly and

black bear, moose, deer, mountain sheep and goats, besides many smaller animals. For big game, the Kootenay Valley, FIFTEEN MILES DISTANT, just beyond the Brisco Range, as well as the higher part of the Selkirk Slope, offers abundant opportunities.

The opening of the Banff-Windermere Motor Highway will attract to the valley MANY TOURISTS GOING THROUGH on both main lines.

Reclaiming of Land. No Irrigation necessary

The plans of the Company have reference to reclaiming only the overflowed lands, which extend southward from Golden to Windermere. THEIR LENGTH IS ABOUT 75 MILES, while the width is from one to one and a half miles. The breadth of the valley itself, however, varies FROM FIVE TO FIFTEEN MILES. The land, when reclaimed, will be EMINENTLY SUITABLE FOR AGRICULTURE; while, from its strategic position and admirable transportation facilities, its products should find a ready market. THE ADJOINING CATTLE RANGES OF IMMENSE EXTENT on the benches and slopes of the mountains make the project unequalled. For, this will render possible an intensive development of mixed farming, which will WHOLLY CHANGE THE GENERAL CHARACTER OF AGRICULTURE IN THE ENTIRE DISTRICT.

It will be about the only land in the Upper Columbia Valley for which IRRIGATION WILL NOT BE NECESSARY.

Agriculture

The Upper Columbia Valley is now well settled on both sides of the river. But the aggregate of cleared farm land available here is now comparatively small. Though bench and upland are WELL POPULATED, irrigation for the individual farmer is expensive, often impossible. They need lands that will grow hay and other farm products without irrigation. Accordingly, THESE FARMERS AND RANCHERS WILL BE THE FIRST PURCHASERS of the bottom lands, as soon as they are prepared and in the market. They impressed this on our Engineers. They have ALREADY MADE APPLICATION for the purchase of the flats adjacent and opposite to their own holdings, thus showing a ready market for the land in the valley itself. In a few years the whole valley will be a perfect hive of industry—none more prosperous in all British Columbia.

Two irrigation Companies have cleared and planted considerable land on the benches, and have sold UNCLEARED AND IRRIGATED LAND AT $150.00 AND $200.00 an acre. They have demonstrated that fruit, especially apples and all small fruits, can be grown successfully. Both Companies have planted ORCHARDS ON A COMMERCIAL SCALE. Many of the ranchers have flourishing orchards, which, in spite of neglect, BEAR PROLIFICALLY.

Rich deep soil and Luxuriant Growth

Between the benches on both slopes lies the deep alluvial soil of the bottom lands, so ADMIRABLY SUITED TO AGRICULTURE. THE DENSE GROWTH OF BRUSH on the raised banks and the LUXURIANT MARSH HAY on the higher meadows bear witness to the fertility of the soil. The succession of wild hay crops has, in the centuries, added a large percentage of highly valuable INTERMIXED ORGANIC MATTER. Local farmers have occasionally sown timothy on the fringes of these bottom meadows, without even disking the ground: IT HAS GROWN THICKLY AND RAPIDLY, but has invariably been killed by the summer floods. The unit yield has been ESTIMATED TO BE TWICE THAT USUALLY OBTAINED on the irrigated bench land.

Near Windermere, root crops have been successfully grown on raised patches of the flats. Even though these spots did not become inundated, the water-table must have been very near the surface. Therefore, the results cannot be compared with WHAT COULD HAVE BEEN DONE WITH PROPER DRAINAGE; what variety of crops can be economically produced on these lands can BEST BE DECIDED AFTER RECLAMATION is partially complete.

But if the bottom lands proved suitable for hay alone the enterprise would be well justified. Hay always commands high prices in British Columbia, NEVER LESS IN THIS DISTRICT THAN $25.00 a ton. Its shortage for winter feeding is a large factor in the high price of beef. Land which will produce hay abundantly HAS A DOUBLE VALUE when there is a large adjoining range; and this is the case here. It is therefore ESPECIALLY SUITABLE FOR MIXED FARMING. Many farmers have given it as their opinion that they could make the reclaimed land **pay good interest on $250.00 per acre** by merely feeding the entire product to their own stock.

Climate

The official Bulletin No. 26, issued by the authority of the Legislature of British Columbia, reports concerning this part of the Valley of the Columbia: "The climate is healthful and enjoyable at all seasons; blizzards and cyclones are unknown, and bright, sunny weather, winter and summer, is the rule. The summers are dry, with occasional hot days. The heat, being dry, is not oppressive. It is modified by the light winds passing over the glaciers and snow capped mountains, and the nights are always cool. The winters are dry, crisp, and bracing; clear skies, and bright, sunshiny days, and calm, starry nights prevail. There is not even the slightest doubt that cattle and horses can find food for themselves at all seasons of the year. There are many small herds of cattle in the valley, the bulk of which are allowed to roam at large without care, not even being provided with winter fodder."

Mining

British Columbia is unquestionably "The Mineral Province" of the Dominion. But, owing TO THE LACK OF CHEAP TRANSPORTATION, the commercial possibilities of mining in the Upper Columbia Valley have NOT BEEN FULLY DEVELOPED. Prospecting has demonstrated that there is MUCH MINERAL WEALTH.

At Bull River, Grey Creek and Kitchener are IRON DEPOSITS OF GREAT EXTENT. The coke ovens and THE RICH COAL LANDS of the Crow's Nest region farther south, are too well known to require more than a passing reference.

Proposed Reclamation

After considering various means for reclaiming these bottom-lands, it is proposed to adopt throughout THE USUAL METHOD OF DIKING AND PUMPING, together with incidental channel improvement. All sections of the flats ON THE RIVER SIDES BY LEVEES, and the drainage will be conducted so that THE WATER WILL BE AT ANY LEVEL BELOW THE SURFACE that may be required. Each of the proposed sumps is to be constructed near a tributary, from which power can be developed for pumping the drainage into the river. The river meanders are to be straightened; cross and back channels are to be obliterated; and some brush clearing and lowering of the natural banks to be provided for. The fundamental feature of the whole design is to provide A RIVER CHANNEL WHICH WILL CARRY THE MAXIMUM DISCHARGE, with a specified water level.

Pumping Stations.

Inexpensive and Unique Hydraulic Pumping

The pumping plants proposed are all of the same type. In each case the required drive water is all to be diverted from a tributary creek, which affords a high head to a forebay; and thence through a penstock to the sump. In the sump will be installed ONE OR MORE HYDRAULIC WATER-LIFTERS. The water-lifter is really nothing but a water-ejector, being a development of the hydraulic elevator used in placer mining to raise water and sluiced material. The pumpage will consist practically of MERELY LEVEE SEEPAGE, PLUS SIDE-HILL DRAINAGE, represented in the flow of any small creeks not diverted into a river channel.

It is extremely fortunate that AMPLE HYDRAULIC POWER, which may be developed in this manner, is close at hand, and that there is NO NECESSITY FOR STEAM PLANTS, each of which would require two shifts of two men each throughout the summer and a heavy expenditure for fuel. THE PROJECT IS PROBABLY UNIQUE IN THE TYPE OF PUMPING PROPOSED, as most swamp lands are at such a distance from steep watersheds that the use of steam or electricity is imperative. Other things being equal, the land in this project should have A PROSPECTIVE VALUE EXCEEDING THAT IN CLOSED DRAINAGE DISTRICTS SERVED BY STEAM OR ELECTRIC STATIONS by the capitalized cost of the operation of such plants in perpetuity.

Drainage by Units

Quick Results

A further unusual phase is the division of the land into units, EACH OF WHICH IS INDEPENDENT OF THE OTHERS. Each unit will be served by its own pumping plant; and EACH OF THESE DISTRICTS WILL FORM AN INDIVIDUAL PROJECT, which may be reclaimed separately. Varying from 2,600 to 6,000 acres, according to physical characteristics, they are each composed of TWO OR MORE SEPARATE AREAS, or SUB-UNITS, which are divided from each other by the river or by transverse levees. The site of the pumping station for the unit is ,of course, determined by the position of a tributary stream suitable for power purposes. THESE UNITS CAN THUS BE RECLAIMED PROGRESSIVELY, GREATLY EXPEDITING RESULTS, and greatly minimizing the AMOUNT OF INITIAL CAPITAL REQUIRED. Just as soon as operations start on a given Unit, that particular area can be placed in the market.

General Remarks

The foregoing represents but a brief synopsis of the proposed reclamation scheme, the details of which are set forth MOST EXHAUSTIVELY IN THE OFFICIAL REPORT, occupying 150 pages, presented by our Engineers, Messrs. Canavan and Mitchell, who have almost an international reputation in works of this kind.

In the Report, the following subjects are treated in minute detail:—

1. Columbia Valley; location and extent.

2. Columbia Valley; Hydrography.

3. General Description of the bottom lands, south of Golden.

4. Methods of reclamation considered.

Storage.
Sedimentation.
Diking and pumping; channel improvement.
Maximum discharge in design.
Effect of elimination of storage.
Design of Channel.
Levees.
Pumping.
Drainage Works.
Irrigation.
Land subdivision.
Plans presented.
Detailed description of individual units.
Estimates.
Methods of construction and type of plant.
Areas.

Maps and Plans

Accompanying the Report are:—

EIGHT LARGE PLATES, illustrating flood levels and the details of the pumping station and pumping plants; and NINETEEN MAPS, profile, topographical and contour. The drawings are elaborate and complete: SOME OF THEM EIGHTY FEET IN LENGTH.

Special Advantages to Settlers

Golden-Windermere, Limited, has recently INCREASED ITS ALREADY EXTENSIVE HOLDINGS by a large additional acreage. Part of this consists of the alluvial deltas of the brooks, creeks, and streams flowing into the Columbia, these lands represent TENS OF THOUSANDS OF ACRES. They are situated above high-water level, and will not need to be reclaimed. They will furnish admirable sites for the homes of the settlers, and abundance of firewood, timber, lumber and pure glacial water. The large ranges on the uplands and mountain slopes, extending for miles back from the thread-like streams of the Columbia, likewise provide GRAZING AND FIREWOOD FOR ALL TIME FOR ALL SETTLERS in the valley.